

REMARKS

Claims 11 to 13, 15, 16, and 18 to 23 were rejected under 35 U.S.C. §102(b) as being anticipated by Espey (US 6,145,493). Claims 14 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Espey (US 6,145,493). Claims 11 to 13, 15, 16 and 18 to 23 were rejected under 35 U.S.C. §102(e) as being anticipated by Usui et al. (US 2004/0118382).

Reconsideration of the application based on the following is respectfully requested

Rejections under 35 U.S.C. §102(b)

Claims 11 to 13, 15, 16, and 18 to 23 were rejected under 35 U.S.C. §102(b) as being anticipated by Espey (US 6,145,493).

Espey shows a:

fuel guidance system for an internal combustion engine having in-line cylinders and inlet bores for connector pumps, and more particularly, to a fuel guidance system with high pressure lines between the connector pumps and associated injection valves, as well as with a supply line that carries fuel, extends over the length of the cylinder housing, and is connected with the pumps.

(Col. 1, lines 11-17).

Claim 11 recites an internal combustion engine that includes an injection system configured as a high-pressure accumulator system, the internal combustion engine comprising:

at least one high-pressure pump;
a tubular high-pressure accumulator having a plurality of connection fittings;
a high-pressure supply line connecting the at least one high-pressure pump to the tubular high-pressure accumulator; and

a plurality of high-pressure connection lines each connected to one of the connection fittings and configured to provide a valve-controlled flow connection to a respective one of a plurality of injection valves of a cylinder row of the internal combustion engine,

wherein each of the plurality of connection fittings is disposed laterally offset relative to the corresponding injection valve, and wherein an absolute magnitude of the offset is the same for each of the injection valves.

Espey does not have a “a tubular high pressure accumulator having a plurality of connections,” or “a high pressure supply line” as claimed. The accumulator identified in Figure

1 of the Office Action appears to be a bar. In addition, supply line 15, is not an accumulator. Moreover, the connection fittings identified in Figure 1 of the Office Action are not offset laterally at all in Espey with respect to the injection valves.

Withdrawal of the rejections under 35 U.S.C. §102(b) thus is respectfully requested.

Rejections under 35 U.S.C. §103(a)

Claims 14 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Espey (US 6,145,493).

Espey is discussed above.

Claim 14 recites the internal combustion engine as recited in claim 11, wherein the plurality of high-pressure connection lines have two different shapes, and each high-pressure connection line has one of the two different shapes.

The Office Action states on page 5 that there is no disclosed advantage or particular purpose for the different shapes. This is not true. The different shape connection lines are used depending to the axis of the connection and the cylinder axis. (See Specification [0006]). Therefore there is a purpose to having the different shaped connection lines. Espey does not teach or show the use or need of different shapes. This would not be obvious to one ordinarily skilled in the art.

Claim 17 recites the internal combustion engine as recited in claim 16, wherein the housing is a crankcase of the internal combustion engine.

Espey does not teach or show the housing being a crankcase of the "internal combustion engine." There is no motivation that one of ordinary skill in the art would have known to do this.

Withdrawal of the rejections under 35 U.S.C. §103(a) thus is respectfully requested.

Rejections under 35 U.S.C. §102(e)

Claims 11 to 13, 15, 16 and 18 to 23 were rejected under 35 U.S.C. §102(e) as being anticipated by Usui et al. (US 2004/0118382).

Usui et al. shows a fuel rail assembly and a forming method. Three embodiments are illustrated one of which being a high pressure type As stated in the abstract:

the assembly comprises an elongated conduit having a longitudinal fuel passage therein, a fuel inlet pipe fixed to an end or a side of the conduit, and a plurality of branch pipes. The rear end of each branch pipe is provide[d] with a connecting member for receiving a tip of a fuel injector.

Claim 11 recites an internal combustion engine that includes an injection system configured as a high-pressure accumulator system, the internal combustion engine comprising:
at least one high-pressure pump;
a tubular high-pressure accumulator having a plurality of connection fittings;
a high-pressure supply line connecting the at least one high-pressure pump to the tubular high-pressure accumulator; and

a plurality of high-pressure connection lines each connected to one of the connection fittings and configured to provide a valve-controlled flow connection to a respective one of a plurality of injection valves of a cylinder row of the internal combustion engine,

wherein each of the plurality of connection fittings is disposed laterally offset relative to the corresponding injection valve, and wherein an absolute magnitude of the offset is the same for each of the injection valves.

Usui et al. does not disclose “wherein an absolute magnitude of the offset is the same for each of the injection valves.” As clear from Figure 6, each line, 44a to 44d, is shaped differently and there is absolutely no teaching or disclosure that the offset is the same for each injection valve. In fact, it seems due to the different line shapes in Figure 5 and Figure 6, these indicate that the offsets are different.

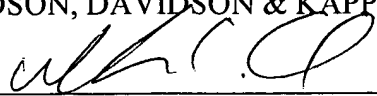
Withdrawal of the rejections under 35 U.S.C. §102(e) thus is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

DAVIDSON, DAVIDSON & KAPPEL, LLC

By: 
William C. Gehris, Reg. No. 38,156

DAVIDSON, DAVIDSON & KAPPEL, LLC
Patents, Trademarks and Copyrights
485 Seventh Avenue, 14th Floor
New York, New York 10018
(212) 736-1940